



Establishing virtual working within the Business curriculum

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Summary

In 2002, in the course of a substantial reorganisation of its membership and activities, the Dundee Business School (DBS) at the University of Abertay Dundee (UAD) comprehensively redesigned its provision of undergraduate business education, with the primary aim of refreshing its curriculum in the context of changing requirements posed both by labour markets and within the HE sector.

One feature of the programmes that emerged through the review and redesign process to form the Business portfolio (first operated in 2004-05) is the inclusion throughout those programmes of virtual group working. Skills associated with this theme were embedded in modules core to all programmes within the portfolio (a total of four programmes, one of which incorporates eight pathway variants).

This paper explains the process by which virtual working was developed, and articulates one element within a comprehensive generic skills framework, closely associated in particular with skills related to communication and teamwork, as an enhancement both of employability focus and portfolio differentiation. It also identifies structural and contextual challenges to the successful implementation of skills programmes likely to be common to design teams operating within modular schemes and rationalising provision through portfolio redesign.

The paper outlines the structure and development of the virtual working theme, from online communication to extended collaboration, and sketches the initial achievement in leveraging opportunities offered by skill integration and the transfer to an online environment. These were opportunities to develop knowledge building and critical thinking skills in an environment significantly different from that of the classroom.

Finally, the paper identifies design and operational issues relating to the initial implementation and lists challenges for further development.

Making the case for virtual working in the curriculum

In the design team, we had several objectives in identifying virtual working as a particular curriculum focus and selecting it from a broad range of subject and skill options. These objectives reflect conditions in which other programme teams working in the same area are also likely to undertake curriculum review and development of generalist undergraduate Business and Management programmes.

From the outset, we recognised fundamental changes in business models and practice, wrought by interlinked forces of globalisation and the changing economics of information. And we understood that to respond fully to, and enact, these changes within our Business portfolio we would have to do more than develop the content-based syllabus. We would also have to review the development of skills within the portfolio. And in doing this, we would need to recognise changes in the nature of work both for organisations and for the individual, and the economic and moral imperatives to develop a workforce with a substantial grounding in working and learning practices sufficiently robust to withstand and to inform ongoing change. Achieving all this would require changed priorities within the curriculum, beyond the

manipulation and/or expansion of content. The redesigned portfolio would need a substantive and structurally significant skills focus.

Furthermore, we well understood that for claims of relevance to employability that resonate with potential Business students' own career objectives in choosing to study Business qualifications to be sustainable, they must be supported by learners, and by graduates and their employers. Such claims cannot rest solely on an assumption that a Business-related degree must indeed, by virtue of its subject matter, contribute significantly to employment prospects and performance. Neither can they rely substantially on the adoption in programme delivery of a generally businesslike approach, incorporating the use of business resources and formats, and sustaining the application of theory to practice throughout. Central objectives of the curriculum design process were, therefore, to specify and substantiate claims to an employability-relevant curriculum, and to identify employability skills clearly, as a significant curriculum element, to stakeholders.

This determination to articulate and implement employability with clarity and precision entailed a further condition: the skills selected would have to be amenable to close incorporation with subject development throughout a busy and potentially overcrowded curriculum. The range is vast of both subjects and skills that can be justified for curriculum inclusion on the basis of broad and substantial evidence of their importance to business and to organisational life. Certainly there was ample evidence available to indicate that virtual working constituted a valid component of the new programmes, serving a stated portfolio aim of preparing graduates for 'productive participation in a networked and knowledge-based economy', in the 'multi-faceted virtual culture of the network enterprise (Castells 2000, 214). Justifying the selection and prioritisation of certain skills in a curriculum already pressed to include other foundational and contemporary subjects and skills is, for curriculum developers in Business and Management, perhaps the most challenging task.

Thus the programme team sought to identify among the employability-related skills available and justifiable for inclusion in the portfolio, those that, if effectively integrated into the curriculum, would:

- a) represent curriculum innovation within the sector so that, while the DBS portfolio might resemble those of other business curricula (not least for reasons of market expectation), the power and persuasiveness of the School's offerings would reside, in part, in the various ways in which employability was articulated within that curriculum;
- b) be amenable to integration not only with the diverse syllabus content that forms the basis of general undergraduate syllabus in Business and Management, but also with the focus on academic skills development identified as a significant requirement of the undergraduate business curriculum, and with other employability-related skills.

The skills associated with virtual working met all of the objectives set for the selection of employability-related skills within the new curriculum. They were of contemporary relevance, consistent with and supportive of other proposed content and skill components within the curriculum, and they could be articulated to and by stakeholders as a coherent component of portfolio differentiation. They offered a clear opportunity to go beyond the expression of employability as a curriculum value, and to position and develop specific employability skills within the curriculum.

Determining the focus

With the decision made to incorporate virtual working into the new curriculum, there emerged two critical decisions to be made that would guide our implementation of

virtual working as an employability skill and as a curriculum element. Exactly how should we articulate its relevance to employability? And how would we introduce it throughout programmes?

Virtual teamwork or digital literacy?

Two primary (though far from mutually exclusive) foci presented themselves at the outset for the treatment of virtual working: a communicative focus on the skills and techniques of online interaction; and a digital literacy focus on the informational aspect of virtual working.

We selected the former as offering a particularly good fit with what we anticipated as a consistent portfolio focus on the development of teamworking skills such as group decision-making and the preparation and delivery of team presentations. It also offered a focus in curriculum content on changing business and organisational models in which collaboration assumes an increasingly significant role, as

‘more than people and applications working together – [crossing] the entire business chain to include processes, architecture and communication’.
(Filho 2001).

Enhancing group working with virtual working skills generated a portfolio outcome promising graduates able to ‘perform effectively as a team member, in formal and informal, face to face and online contexts’, embracing aspects of collaboration such as

‘...willingness to engage in change processes ... to monitor critically their own knowledge and performance ...communicate, including the arguments and perspectives of others...perform effectively as a team member ... plan, manage and take responsibility for completion of tasks [in a] task-based group’ (UAD 2004, 8-13).

Additionally, we felt it important that the articulation of a context for virtual working should be relevant both to a range of careers, and to the full range of potential employers at different stages of progress in their deployment of virtual working. Focusing on teamwork would support the development of collaborative skills more generally. Digital information literacy, while an important aspect of employability and in no way excluded from the emerging virtual working concept, could, we decided, play a supporting role in the area of virtual working, because of overlap with the already well-established portfolio focus on the development of academic and business-related information handling skills,.

Skill or task focus?

With the decision to prioritise teamworking aspects of virtual working, and to leverage online group work to develop a broad range of knowledge- and learning-related skills, a further decision remained as to how we would operationalise skill development. Here, once again, two broad choices presented themselves: the first, to focus on sub-skills associated with virtual group working, to organise and to accumulate these to imply or practice a composite performance; the second to simulate that composite performance repeatedly as a requirement and to analyse and develop performance progressively within it.

The decision to focus on sub-skills, developed in staged practice environments, lay partly in contextual factors associated with modularity and programme interlock, as discussed below. But it was a decision also informed by a commitment to providing graduates, at each stage of their programme of study (and allowing for exit points at each of the four stages in a Scottish honours programme), not only with the knowledge, skills and aptitudes employers sought and would value, but also with:

‘an articulate understanding of the value and the detail of their learning experience, such that they are able to identify for themselves and for future employers, their potential to contribute to organisational development and transformation.’ (UAD 2004, 7)

This ability to formulate with conviction and some precision the basis of their claim to employment and career advancement we generally agreed to be critical to graduate competitiveness. But such an approach would also, we hoped, support learner persistence. It would offer carefully graduated levels of challenge, and a series of ‘cues and clues’ as to the nature of the challenge at each stage supported by confidence in successful achievement of prior challenges (Yorke and Knight 2004). It would also allow us to maintain firm links between specific skills directly associated with online group working and a range of other closely related and underpinning skills developed at the same stage of study, in areas such as information literacy, IT, group process, and project management.

The review context

Contextual challenges also emerged. It had been recognised early in the review process that the development of a revised undergraduate Business portfolio, contemporary in “feel” and content, and reflecting the academic strengths and interests of an academic staff profile changed by both normal turnover and a voluntary severance scheme, would not be achieved through marginal changes to the School’s existing provision. Comprehensive review and ambitious renewal of its existing provision would be necessary to restate the remodelled School’s commitment to attractive and successful undergraduate programmes, and its engagement with national agendas and priorities for economic development and growth.

In order to ensure that the skill development programme, of which virtual group working constituted one element, was coherently presented, the design of the skills programme could not be driven by sporadic innovation and preference. Nor could its implementation rely on variable uptake at module level. In implementation, particular skills and sub-skills that were the focus of particular modules would have to be practised, developed and assessed across modules and levels, in such a way that the confidence of students in their intellectual and skill development would be maintained.

Key objectives of the review as a whole included reducing the module proliferation that had occurred through the independent design of individual programmes, and leveraging module utility to create an expanded portfolio of titles that could be delivered by a much smaller academic staff. Thus, introducing generic skills required particularly careful attention to the status of individual modules as core or optional, on various programmes, and in some cases with heterogeneous module populations.

The design process was therefore a protracted one, in which each of the skills-focused teams, subject-groupings, and programme teams developed their ideas in more or less close harmony (occasionally disharmony) with the broadly parallel progress of the others. And in implementation, the information sharing requirement, particularly in relation to assessment, exceeded anything required previously of module tutors. Task types, grade weightings and assessment criteria had to be aligned if skill development was to be assured and to keep pace with skill requirements.

From communication to collaboration

The outcome of this process was a structured programme of skill development and assessment, one element of which was the staged development of communication

and group process skills associated with virtual teamworking (see fig. 1 below). At each stage, the virtual working skills were as follows:

Stage one: Communicating online

In the stage one Business programme operating across the portfolio, students learn foundation IT and communication skills. One module contextualises basic IT skills for Business (as well as familiarising students with WebCT), and they learn communication skills in a series of modules across a range of subject areas, reinforcing the centrality of communication across disciplines and Business functions. Thus, for example, in the stage one Accounting module, students are asked to consider how a reader-centred approach to memo writing might inform the structure and phrasing of a covering memo summarising a lengthier explanation of a financial situation, targeted at non-specialists. In the parallel Law module, they tackle the task of formulating for an organisation's legal advisors a problem that requires attention, and in their first Economics module they focus on the communicative power of visual aids, designing a single Powerpoint slide that meets elicited principles of good communication practice. A similar approach is taken to the development of shared principles of online communication – at this stage in email.

Rather than presenting learners with a particular and restrictive view of 'correct' netiquette, their experience as email recipients is used to elicit preferences that form the basis for agreed principles of communication. The development of a particular email register or format is avoided, and learners are instead encouraged to view email simply as a channel through which various degrees of formality and detail can be expressed, with appropriate reference to communicative purpose and audience, rather than to any presupposed bias or generally agreed email format or style. This approach, consistent across online and offline communication, avoids focus on format, concentrating instead on communicative impact, establishing from the outset the importance of planning for and reflecting on communication as interaction. The teaching approach adopted in all instances is that of discussion and practice, allowing students to formulate shared (and divergent) views of communicative effect and priority before being asked to produce particular items.

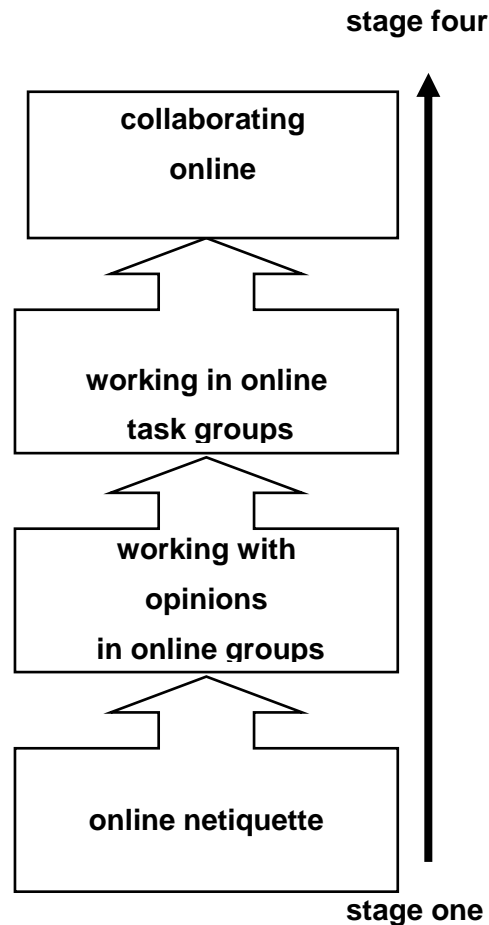


Fig 1. Staged development of communication and group process skills in virtual team working

Stage two: Cooperating online

Whereas the focus at stage one has been primarily on the effective presentation of information, at stage two the focus shifts to the more contentious area of formulating and receiving opinion.

Once again, virtual working skills are supported by other skills under development in offline contexts – particularly in the following areas:

- Identifying and evaluating alternative solutions;
- Reaching group consensus;
- Drafting and revising pair-generated documentation.

Thus, learners are engaged in the challenge of understanding and formulating relevant differences in stated positions, developing the contributions of others, and seeking common ground among a range of positions. In their online work, the requirements are, at this stage, particularly carefully constrained. To allow time for learners to experience and explore the basis of group collaboration, they focus at this stage solely on recognising and responding constructively to (in development and/or disagreement with) the stated positions of others in an online environment.

Presented with two sharply divergent positions on an organisational issue (not academic viewpoints), they are invited both to express and account for their own opinions and to comment on and develop those of others in a small group (maximum 6 members) over a period of a couple of weeks. They are not required, in this context, to reach a consensus; their contribution to the debate is evaluated on the basis of their interaction with the group and its opinions. The teaching approach at this stage moves to a task-debrief pattern, with a limited set of principles being established prior to the task. The challenge for learners is to develop their individual skills in an online small-group context, and only when they have experienced the impact of their own and others' interactions are they likely to be able to formulate for themselves and others the significance and the relative effectiveness of a range of possible approaches and techniques.

Stage three: Coordinating online

It is here that learners confront the process challenges of online group decision making, as they are required to complete a group task, with a specified outcome and deadline, once again in small groups. Here the focus shifts decisively from individual to group performance, in alignment with parallel developments throughout this stage in the curriculum, with students being required to develop and deliver group projects as presentations and reports, and to undertake extended and multi-stage projects based on emergent requirements, on an individual basis. Once again, as at stage two, only in the attempt does the challenge become clear. Therefore, in this case an unassessed practice iteration of a group task is undertaken, and its outcomes and shortcomings are explored in plenary session, before the assessed task is undertaken.

Stage four: Collaborating online

At honours stage the skills of virtual working are more closely aligned than earlier with the academic requirements of programmes. Whereas at earlier stages there has been a clear focus on Business-related, rather than academically-directed, activity, at stage four that distinction is less firmly upheld in that, while the task set has a Business focus, the collaboration in which learners engage to complete it feeds into their development of an individual coursework task submission. The criteria for assessment of this collaboration are necessarily distinct from those for the individual report that develops from that collaborative effort. For example, the requirements

related to a Direct Marketing case study include the following (in addition to originality and participation criteria):

- suggestions for the group to discuss in response to the challenges set;
- contribution to the discussion of suggestions made by others in your group, through comment, suggestion of a different perspective, an added factor, a problem;
- useful connections between the challenges posed and Direct Marketing theory;
- development of the ideas contributed by others in your group, taking their ideas further;
- critical comment on the ideas of others that is constructive and seeks to move their ideas forward.

The task set is multi-stage, raises multiple issues, and is of extended duration (six weeks, rather than two or three at earlier stages). In the offline environment, learners at this stage undertake extended research tasks, their response to which is expected to be structurally as well as substantially informed by their independent research. In this online environment they are encouraged to seek out alternative opinions and approaches, to contribute to group learning and understanding of the task at hand, and to develop and deploy the ideas of peers.

Leveraging opportunities

We are evaluating the first implementation of virtual working, and of the generic skills programme as a whole. Early indications are that levels of student satisfaction with their online activity and their overall confidence in the value of the experience for their career prospects are very high.

A guiding principle for us was that, in positioning and articulating individual skills, we would pay close attention not only to the delivery of each specific skill component, but also to the integration of the various skills that comprised the programme as a whole. The danger was otherwise that we would create either isolated skills modules, or scattered and equally isolated skills elements within largely unrelated subject (module) contexts. In either case, we would leave each skill area within the portfolio unsupported by, and unsupportive of, both surrounding content and other skill areas, undermining any claim to the articulation of a consistent employability focus. This interlinking of skills appears to have been achieved and to be recognised by students as constituting a significant and coherent employability skill set.

What is less clear is how well the link between the various virtual working sub-skills and the overall theme of virtual working was sustained. Without careful design and attention to the 'big picture' at each stage, this focus on sub-skills might obscure entirely from learner view the relevance of their work to the overarching theme of virtual group working. This was a challenge addressed through task design at each programme stage (see below), with a requirement that tasks at stages one to three in particular, be Business focused rather than academically formulated. However, students at stage four appear to be clear about the Business context in which they, as graduates, might use the skills they have developed, and are able to relate those skills closely to the effectiveness of online group working, at earlier stages.

The focus on online group work within virtual working provided opportunities to develop a range of other skills and attitudes associated with an individual's effective contribution to an organisation and its development. In transferring a proportion of learner interaction to an online environment, and to a group working context in particular, certain features of institutional learning, and of face to face delivery in

particular, that might be considered to constitute barriers to simulating the dynamics of organisational life, could be overcome. Brown and Duguid (2000, 127) analyse a description of an effective project group as follows:

‘in getting the job done, the people involved ignored divisions of rank and role to forge a single group around their shared task, with overlapping knowledge, relatively blurred boundaries, and a common working identity’.

How are we to recreate such an experience either within a classroom or in out-of-class group work necessarily evaluated primarily as product rather than process?

Focusing on group working as an aspect of virtual working, we found we could promote the development of collaborative techniques and approaches in learners, precisely because of the ‘distance’ from the standard classroom configuration at which that work takes place. Online, teachers have an opportunity to withdraw from centre stage – a withdrawal in adjusting to which some teachers, as well their students, may need support (Palloff and Pratt 2001, 21-22). Thus it is possible to design a team context rather closer in certain significant respects to that of the organisational environment than it is possible to create, or at least sustain, in a synchronous face-to-face teacher-managed classroom – a context in which the dynamics of team work can be explored and enacted.

More broadly, by altering standard patterns of face-to-face interaction, virtual group working, appropriately designed and managed, can allow focus on developing an understanding of aspects of organisational knowledge sharing and knowledge building generally. There are opportunities, for example, to examine the difference between idea contribution and ownership: who ‘owns’ a group-developed idea? How and why should appropriate credit for its initiation and/or emergence as a viable idea, be given? How do individuals get their ideas accepted by a group, and what are the impediments to achieving this? How are pooled ideas to be evaluated and where necessary, selected, rejected, refined and reworked without damage to group effectiveness? How do individual and collective responsibility operate in extended projects and process? The dynamics of online group work – asynchronous, text-based and archiveable – permit an attention to aspects of knowledge generation that is difficult to sustain convincingly in an offline delivery format in which individual contribution is, largely, independently provided and individually evaluated. Thus it is possible to develop, in addition to skills directly associated with online group working, those skills associated more generally with contemporary organisational life and development, identified by Salmon (2000, 91) as:

‘self direction together with a willingness to support others, the ability to work in multi-skilled teams (which are likely to operate without regular meetings), to cooperate rather than compete, to handle information (rather than know everything) and to become critical thinkers’.

But there is also emerging evidence in the e-learning literature of the value of online working as a means of developing broader-based critical thinking skills in learners. The ‘no significant difference’ debate continues around e-learning as a more or less wholesale replacement for face-to-face delivery of higher education, and the results of online working initiatives remain mixed as far as the demonstration of ‘higher order’ skills is concerned (see, for example, Oliver, 2001). Nonetheless, recent literature fairly consistently identifies academic advantages to well-designed and firmly managed online working (e.g. Painter, Coffin and Hewings, 2003). An asynchronous online environment promotes uninterrupted contribution by all group members, based on adequate and individually-determined time for reflection, synthesis and composition. It allows the informal rehearsal of ideas, as well as their peer review and development. Even the very availability for viewing by others of peer-generated ideas indicates for online group working a valuable dual focus both

on career-focused employability skills associated with knowledge building and organisational learning, and on more immediate academic skill requirements (Garrison and Anderson 2003, 26).

We also found that operational challenges included, not, as might have been expected, too much tutor time spent in managing these tasks (this was carefully minimised in task design), but in the assessment required at stage two: in particular, in evaluating individual student contributions based on a considerable number of fragmented and dispersed postings.

Further challenges remain. Can we develop in this virtual working environment skills that are difficult to implement within a modular scheme? Could we, for example, develop an equitable and sustainable approach to practising skills associated with the formal management of others? Could we use the online environment to create groups in which students are required to adopt specific function perspectives? And, once the initial implementation has been fully evaluated and further refined, can we operationalise the skills programme as a whole as Personal Development Planning?

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